

BETTER BALANCED FARMING

Land Must Sometimes be Diverted from Wheat-growing —Financial Soundness of Mixed Agriculture

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Nature, that kindly mother, seems to have to resort once in a while to rather drastic measures to enforce attention to the lessons she tries to teach us, day in and day out. She has given us many lessons in the management of farms, and we ought to have realized ere now that her patience in some regards was being stretched to the limit. She sends us the message this year that the quantity of humus or fibre that she provided for our soils is in many places pretty nearly worked out, and that it is up to us to replace it.

All through a long summer day in the middle of June this year Dame Nature had arranged a demonstration of her teaching of this lesson. Looking out from the observation car of the Canadian Pacific Railway train at Moose Jaw in the early morning we saw the beginning of the demonstration, and it continued the whole lee-long day, through Regina, Broadview, Brandon and Portage la Prairie, right into Winnipeg. A strong, cool north-west wind was blowing steadily all day; and the whole country, instead of lying at peace, was standing up vertically to the skies, and moving rapidly to the south-east. Not only that—every single field, heavy soil or light soil, was pock-marked by the strong winds that had already passed over earlier in the season.

What is the reason for all this? Simply that we have been going on, year after year, cultivating our soils into a finer and finer state of tilth, until now we discover that the greater part of the fibre is worked out, and that we have been neglecting to do anything to replace it. We knew well enough that such practice was not in accord with the teachings of our forefathers; but the easy thing to do was to think that there was some special virtue in our soils that would enable them to stand this treatment; and we will have to admit that it was due to us that we should receive the lesson. Here in the southern plains of Alberta we get this lesson in a modified form every year; and, while we leave the Saskatchewan and Manitoba farmers to work out their own salvation, we had better look around and see what we can do for ourselves.

All of the plans that may be devised boil down to a very simple formula. How are we to replace the fibre in the soil? Cow-dung is what we want. How are we to get it? We can't get cow-dung without cows. We can't have cows without pasture. The minister of agriculture for Saskatchewan has been telling his people to get both pasture and a physical means of holding the soil during the time of the spring winds by growing winter rye; and it would be well for southern Alberta to heed what Hon. Mr. Motherwell says as to that. Some of our leading farmers have already been

giving attention to this means of holding their soils together in places that are subject to drift; and Mr. C. S. Noble has grown considerable quantities of rye for seed on his farms at Nobleford, near Lethbridge.

But Mr. Motherwell never talks on this subject without expressing regret that up till now he has not seen any chance for the great bulk of the grain farmers in Saskatchewan to improve their farms by irrigation, and he always envies those farmers in Alberta who already have, or who may by-and-by get irrigation waters for some portion of their lands, for if that anchor is available, a strong chain can be formed to link us up with a stable agriculture. Given irrigation water, the growing of pasture, and that of the finest kind, is easy; that starts the cows, then we get the cow-dung, then the fibre is back into the soil and the problem is solved. Fortunately, too, every grain farmer now feeds his straw to his cattle, and the burning of the straw piles belong to the heathenish rites of past ages.

The grain farmer has been inclined to smile these last few years of high prices at the irrigation farmer growing alfalfa and selling it at low prices; but the boot is on the other foot this year, and the grain farmer is glad to pay a pretty stiff price for alfalfa hay, or any other kind of hay that he can lay his hands on within reasonable distance, so that he may bring his cows through the winter.

Many of our farmers are still not quite alive to the fact that considerable quantities of water that might be used for irrigating their lands are running to waste in the rivers and streams that come from the Rocky Mountains and flow past our doors. Others who have been aware of this have been anxious to get these waters; while others again, although they have had the knowledge, have said that they think the cost of getting the water on to their farms would be too great, and that they prefer to go on grain farming because they do not know enough about irrigation farming to be able to make a success of that business. It is a striking fact, however, that you meet hardly a single farmer who does not say, "Oh, if I could only get enough irrigation water to grow enough alfalfa or other hay to feed my stock through a dry season, and to help out with my water supply, I would not trade this farm for anything under the sun." And when you tell him that besides all that he might rotate the use of the water around the farm, putting, say, forty acres of his quarter-section under alfalfa for a few years, and then change around to another forty acres, he becomes enthusiastic at once and wants to know more about it. The irrigation engineers have now begun to look at the matter from this angle. Hitherto, and naturally, they have been thinking along the lines that were laid down for the use of irrigation water in the United States, where the projects were so costly that it was an economic necessity to keep the available waters within concentrated areas. But we are not exactly in that position; and there is this other point of difference here: that all our lands in southern Alberta are of agricultural service, whereas in the arid regions of the States the irrigated lands are now worth as much as two and three hundred

dollars an acre, while the lands immediately adjoining are not worth thirty cents.

The minister of the interior, Hon. Arthur Meighen, has recognized that further investigation of these matters should be carried out, and the commissioner of irrigation, Mr. Peters, is now making survey to see if the waters available in the Old Man River above Macleod can be carried farther afield than was at first contemplated, for it is recognized that the duty of a government is to make available the greatest use of any public asset for the greatest number of people. When these surveys have been completed it will be possible to say how many farms can derive benefit from these waters, and what the cost per acre will run to, so that those farmers who are fortunate enough to find their lands under the proposed canals will know whether they should get together to find ways and means to have the project gone on with.

Other projects for getting irrigation waters to other parts of this district will then be considered in the light of what is developed in the Lethbridge-Northern project above referred to, and farmers in the regions to the south-east of Lethbridge will wait with some impatience to learn what transpires up around Carmangay, Monarch, Barons, Kipp, Iron Springs and Turin, for if the plan for bringing irrigation water to 100,000 acres in those districts comes to be successfully developed, it will mean a great deal to the farmers that are situated among the 350,000 irrigable acres within another area south-east of Lethbridge that preliminary surveys have shown may be irrigated from other streams, for it will help them to consider how they, in turn, may set about getting other waters down on to their lands.

There is a continuing temptation in a new country to put the cart before the horse; to omit enquiry into such questions as to how we should harness the land and the water together, and then to proceed to heroic measures in the emergencies that suddenly arise. We are apt to forget that it is one of the important parts of our business to provide against emergencies—aye, more than that; we forget that we should always have our scout out to see that the country is being prepared for the advancing needs of our people. The present urgent emergency is the provision of green feed for the greatly increased numbers of cattle that have been growing up on our grain farms since our farmers started out in this profitable direction from 1914 onwards. It is true we have made considerable advances these last few years in developing well water supplies, and that has helped the cattle raising industry not a little. But we have practically been asleep in the matter of developing the rivers and streams for further irrigation, and all the time these valuable waters have been flowing uselessly past our very door. We have been niggardly in the use of our wits and parsimonious in the use of our farmers' and trade organizations, which should have been devoting more of their efforts to studying these resources, and to impressing upon the governments that we were earnest in our desire that these water resources should be developed.

It may be possible a little later on to ascertain just what has been the cost of moving hay from the north and cattle

from the south this season; but the guess may readily be hazarded that the amount that has been spent during the last few years in further enquiries into the possibilities for making use of these valuable irrigation waters will not amount to a fraction of the cost of moving hay and cattle during this one season of emergency. Maybe we shall presently come to the reluctant and belated conclusion that we want better balanced citizenship in order to come at better balanced farming. Just think of it! Here we are sitting by and looking at irrigation water flowing by our door, with all its great potentialities for the raising of hay; and then waking up suddenly and making a wild and woolly rush upon the governments and the railway companies for assistance to move our live stock to feed, and feed to our live stock. There is the situation over a considerable part of our prairie country. They are just about as foolish over in British Columbia; acres and acres of fine hill pasture there grow up and die every year; and thousands of cubic feet of water are allowed to run down past fine bench lands that would make splendid irrigated farms for the raising of winter feed for the cattle that would come down, rolling fat, when the winter snows began to cover up the mountain pasture. It is at least gratifying to know that even a small fraction of these pastures is being utilized this summer for some of our prairie cattle; and it would be well to have in mind that this asset should not be neglected in the intervening year or two that must elapse before the mountain waters can be made available for irrigation. Unfortunately, not a sufficient number of our prairie farmers have been aware of these British Columbia pasturages to make any considerable movement of cattle up to the mountains, and consequently it has not seemed feasible to ask for the same reduced rate privileges westwards that have been available northwards for live stock; but these hill grasses should be carefully kept in mind with a view to their further economic use.

We have now before us two eminently practical demonstrations that irrigation will greatly improve the fruitfulness of the farms in the Lethbridge district in southern Alberta. The standing illustration is, of course, the one hundred and fifty thousand acres around Magrath, Raymond, Coaldale and Lethbridge that have been drawing water these fifteen years back from the St. Mary's River. These lands steadily produce crops of three to four and a half tons per acre of alfalfa. Such of these lands as are put into wheat make crops of forty bushels and over if the ground is irrigated the previous fall, and if the water is applied at the right time during the summer. And it will be remembered that nature gave us just the same means to produce the phenomenal grain crop of 1915; the great fall irrigation in October, 1914, and rains at the right times during the spring and summer of 1915, which brought the fifty and sixty bushel wheat crops of that year of blessed memory. The quantities of the chemical constituents of our soils—nitrogen, phosphoric acid and potash—are perhaps almost illimitable, but the soil itself, and these chemicals in it, cannot be held together unless we keep up its physical condition by seeing that the humus is not allowed to become depleted.